3

INQUIRY

TO

ASCERTAIN THE MAXIMUM LIMIT

OF THE

ANNUAL TAXATION

REQUIRED FROM

The Sewers Rate-Payers,

AND

TO ADVOCATE FOR THE COMMUNITY

THE ADOPTION OF THE PRINCIPLES OF

JOINT STOCK ASSOCIATION,

FOR

THE RAISING AND LIQUIDATION OF THE FUNDS TO IMPROVE AND EXTEND THE SEWERAGE,

AND TO INTERCEPT FROM THE THAMES,

THE

SEWAGE AND DRAINAGE OF LONDON.

PRESENTED TO THE

Metropolitan Commission of Sewers

BY

A. SAYER, M.D.,

Fellow of the Royal College of Physicians,
Commissioner for the Borough of Marylebone.

LONDON:

Printed for the Use of the Commissioners,

BY JAMES TRUSCOTT, PRINTER TO THE COMMISSION,

NELSON SQUARE.

1855.

Extract from Orders of Court, 15*th May,* 1855.

"11. Doctor Sayer *(Commissioner for the Borough of Marylebone)* proceeded to move, pursuant to notice given by him at the Court on the 17th April last,—

> "'That large funds being required efficiently to improve and to extend the sewerage and drainage of the Metropolis, and to carry out the great works for the interception and delivery of the sewage, &c., north of the Thames at Barking Creek, and south of the river at or below Plumstead Marshes, this Commission do take into *consideration* the means of raising the money, paying the interest thereof, and ultimately paying it off on terms the least onerous and the most equitable for the present and future ratepayers—with reference to the Bill* now before Parliament, for the Better Local Management of the Metropolis;'

and entered into an exposition of the means by which, in his *opinion,* the funds required could be obtained to execute the works in question; and he laid before the Court returns and calculations in support of the views taken by him.

"Mr. C. W. Johnson moved that the returns, calculations, and papers referred to by Dr. Sayer be printed for the use of the Commissioners, and the said motion having been seconded by Mr. F. O. Ward,

"Mr. G. Offor *(Commissioner for the Tower Hamlets)* moved, as an amendment, that the thanks of the Commissioners be

* Prepared and brought in by Sir B. Hall, Bart., Sir G. Grey, Bart., and Sir W. Molesworth, Bart.—Ordered by the House of Commons to be printed, 19th March, 1855.

communicated to Dr. Sayer for the information afforded, and that he be requested to put the same into a concise form, with a view to its being printed for the use of the Commissioners; which said amendment having been seconded by Sir J. V. Shelley, Bart., M.P. *(Commissioner for the City of Westminster)* the original motion was withdrawn, and the said amendment having been put from the chair, was carried,—whereupon Dr. Sayer undertook to comply with such request."

Pecuniary Requirements.

That large funds being required to improve and to extend the sewerage and drainage of the Metropolis (£1,500,000),* and to carry out the great works for the interception and the delivery of the sewage, &c., north of the Thames at Barking Creek, and south of the river at or below Plumstead Marshes (£3,500,000):† this Commission do take into *consideration* the means of raising the money (£5,000,000), paying the interest thereof, and ultimately paying off (£5,292,475, *which includes the existing debt,* £292,475—*the* £140,000 *now invested in Exchequer Bills, and the* £150,000 *to be received under engagements entered into by the last Commission—together* £290,000, *part of the* £3,500,000. *required for the great works of interception, &c.*); on terms the least onerous and the most equitable for the present and future ratepayers—with reference to the Bill now before Parliament, "For the better Local Management of the Metropolis."

* Vide page 21, J. W. Bazalgette, Esq.

† Vide Reports—Sir W. Cubitt, R. Stephenson, Esq., M.P., J. W. Bazalgette, Esq., and W. Haywood, Esq. The estimates are £3,000,000, to which is added a margin of £500,000. for extensions, additions and contingencies.

INQUIRY.

The Act of Parliament, 1848 (11 & 12 Vict. c. 112), to consolidate the *eight* Metropolitan Commissions of Sewers, &c., provided that the District Sewers' Rate should not—*exceed* in any one year, 1*s.* in the pound on all property assessed to the relief of the poor.

The Act, 1851 (14 & 15 Vic. c. 75), second Act to amend, &c., provided that the District Sewers' Rate should not —*exceed* 3*d.* in the pound.

The Act, 1852 (15 & 16 Vict. c. 64), third Act to amend, &c., provided that the District Sewers' Rate should not—*exceed* 6*d.* in the pound, and that arable, meadow or pasture ground, market-gardens, &c., &c., should be charged and assessed in the proportion of one-fourth part only of the net annual value thereof.

The Act, 1853 (16 & 17 Vict. c. 125), fourth Act to amend, &c., gave borrowing powers to the Metropolitan Commissioners of Sewers to the extent of £300,000, including the then existing debt, £99,613. 1*s.* 4*d.*

The Act, 1854 (17 & 18 Vict. c. 111), fifth Act to amend, &c. enlarged the borrowing powers of the Metropolitan Commissioners of Sewers to the extent of £600,000, including the then existing debt, £292,475.

The monies borrowed were to be raised by mortgages on the security of the Sewers' Rates, transferable, a fee of 5*s.* being payable on each and every transfer.

The "Bill for the better Local Management of the Metropolis," omits to provide—*any maximum limit* to the annual rate or rates which, under its operation, may hereafter be assessed and levied for the construction of sewers.

This Bill, clause 141, provides that the Commissioners of her Majesty's Treasury may, on the security of rates, *out of such monies as may be provided by Parliament for that purpose,* make advances to the Metropolitan Board of Works for the construction of sewers and works for preventing sewage passing into the Thames in or near the Metropolis, and *otherwise* for the sewerage and drainage of the Metropolis, repayment of each advance to be made by an annual sum after the rate of interest of per cent. per annum, to be spread over a term of years, to be computed from the 31st March or the 30th September next ensuing after issue of such advance, by two equal payments on the above named days, at the Bank of England, to be carried to the account of the Consolidated Fund of the United Kingdom,—with priority to all other expenses.

This Bill, clauses 142 and 148, provides *general powers* to the Metropolitan Board of Works, to borrow money on mortgage of rates, transferable on the payment of a fee of 5*s.* on each and every transfer,—with no priority amongst the mortgagees.

This Bill, clause 143, provides that the "Public Works Commissioners, under Act (14 & 15 Vict. c. 23), may, to a limited amount, make advances" to the Metropolitan Board of Works without any other security than a mortgage on the rates to be raised by such Board,—with no stipulation as to priority.

This Bill, clause 149, provides that the Metropolitan Board of Works shall establish and maintain a sinking fund to be created by setting aside, once in every year out of the produce of rates, a sum equal to 5 per cent. on the whole amount of the principal monies raised by mortgages thereon, to be invested in the public funds, or on government or real security, in the name of the Board, to accumulate at compound interest, until the accumulated fund, in the opinion of the Board, may be adequate, on the sale or conversion thereof into money, to the liquidation and discharge from time to time of the principal monies raised by mortgages, that they may all be thus ultimately paid off.

Great works carried on at Paris, and in the Department of the Seine, are supported by funds raised under the authority of the Legislature, by the public sale of—*Obligations de la Ville de Paris,*—or *Obligations du Departement de la Seine:—Bonds of the City of Paris—Bonds of the Department of the Seine.*

These bonds are for 1000 francs,—about £40. each.

From the date of issue they are made irredeemable for a determined number of years, they bear a fixed rate of interest payable every six months, and they are bought and sold on the Exchange, at the current price of the day, passing freely and untaxed, by stamps or transfer fees from seller to buyer. Every day the Exchange List gives the quotation of their market value when sales take place. They are virtually what India Bonds or Exchequer Bonds are in England, uniting the best features of both;—the half-yearly payment of interest, at an unvarying rate, and for a fixed period.

If Parliament were to grant similar privileges to the Metropolis of England, the large funds required might be raised and paid off by the rate-payers with all the advantages and economy of Joint Stock association,—the system would be found preferable to the measures provided by clause 141 *of the "Bill for the better Local Management of the Metropolis,"—and it would secure to the ratepayers the saving of a large amount of money.—From this inquiry it will become apparent, that the* maximum limit *of a general equal and annual pound-rate need not exceed, from the Metropolis, exclusive of the City of London,* eightpence,—*and from the City of London,* fourpence.

The security of Sewers' Rates, present and prospective, assessed and levied under a local Act of Parliament, is equal to that presented by the public funds, government bills or bonds, secured also on the present and future revenue of the nation,—alike the produce of taxation.

London increased at the rate of 1·551 per cent. annually in the ten years, June 1831—1841; 1·998 per cent. annually in the ten years, June 1841—1851. In the fifty years, 1801—1851, the rate has been 1·778 per cent. annually,

which may be taken to express the existing rate of increase.

Let it be borne in mind, that steam locomotive power now ministers to an unlimited extent to supply water, food, fuel and all the requirements of civilised life.

At this ratio of increase, 1·778 per cent. annually, the population of the Metropolis may be expected to be doubled in 56·242 years.

With the increase of population the rated metropolitan area must extend, adding annually a progressively increasing increment to the gross poor's-rate assessment, and to the amount produced by an equal pound rate, assessed and levied thereon;—nor is it presumed to be unfair to assume that with a duplication of the population, both will be doubled.

In the following Inquiry sixty years is assumed as the period of time for the duplication of the metropolitan population.

Metropolitan and City Sewers.

This Commission unanimously resolved that it was expedient, for the health and welfare of the whole Metropolis, that the sewage and drainage should be intercepted, instead of flowing with daily increasing pollution into the bed of the Thames, and that it should be transferred north of the river to Barking-creek, and south thereof to or below Plumstead-marshes.

In this great and salutary work every inhabitant of the Metropolis is vitally interested. The accomplishment of the colossal undertaking being for the benefit of the present and future generations, the amount of a general Sewers Rate, *Metropolitan and City of London,* should be such as to bear as moderately as possible on the present and future rate-payers,—the money required should be raised at the lowest rate of interest per annum, with the greatest economy, and in the most eligible manner for future liquidation,—and

finally, the period when the progressive liquidation is to be completed, should be neither too proximate or too remote. Then, a small general annual *Metropolitan and City of London* maintenance Sewers Rate will be all that the ratepayers will have to bear.

A general equal and annual Metropolitan and City of London pound rate of *fourpence*,—assessed and levied by Act of Parliament on the 1854, gross Metropolitan assessment £9,484,945, and on all future increments thereof *without* the present Metropolitan rated area;—and on the 1854, gross City of London Sewers Rate assessment rental, £1,241,280, and on all future increments thereof,—will supply ample means to pay the annual interest of £3,500,000, raised by the issue and sale on the Stock Exchange from time to time as the money may be required, of *Metropolitan and City Sewers Bonds*, to carry out the great works for the interception and the delivery of the sewage, &c., north of the Thames at Barking-creek, and south of the river at or below Plumstead-marshes, —and to pay off £3,500,000. by the gradual purchase of the Bonds in the money-market. Then withdrawn from public circulation, the Bonds will fructify at the rate of interest at which they were issued, and at compound interest, for the benefit of the Metropolitan and City of London ratepayers, until in unison with the decrease of the annual pound rate, they may be cancelled, and in a less period than sixty years the liquidation will be accomplished.—*It will appear that the maximum limit of the annual pound rate need not exceed fourpence.*

A penny rate in the pound on the united gross assessment, 1854, Metropolitan and City of London, £10,726,225, produces £44,692.

The estimated outlay for the Metropolitan and City of London sewage and drainage intercepting and outfall works amounts to £3,000,000.

Allowing £500,000 for extensions north and south of the Thames, additions and contingencies, the probable amount of outlay may be £3,500,000.

The annual charge, after completion of the works, fuel for

steam pumping lifts, wear and tear, management, collector's poundage, &c., is assumed not to exceed £30,000.*

According to the rate of interest at which the £3,500,000 may be raised, the total annual amount to be provided for by the Metropolitan and City of London ratepayers, will be—

At £5	per cent.	per annum	. . . .	£205,000
„ $4\frac{1}{2}$	„	„	. . . .	187,500
„ 4	„	„	. . . .	170,000
„ $3\frac{1}{2}$	„	„	. . . .	152,500

These annual charges may be met respectively by a general and equal pound rate on the gross Metropolitan and City of London assessment, £10,726,225.

At $4\frac{3}{4}$*d.* . .	Amount	£212,287 . .	Surplus	£7,287
„ $4\frac{1}{4}$ . .	„	189,941 . .	„	2,441
„ $3\frac{7}{8}$ . .	„	173,181 . .	„	3,181
„ $3\frac{1}{2}$ . .	„	156,422 . .	„	3,922

It is thus *evident* that the amount of the general, equal, and annual pound rate cannot exceed $4\frac{3}{4}$*d., and it is apparent that it will be under fourpence.*

To the increase of the population of London, it is presumed, may be left to pay off the amount £3,500,000.

The *documents* annexed establish, that the increments to the gross Metropolitan assessment, now £9,484,945, were, since the passing of the Act of Parliament, 1848 (11 & 12 Vict., cap. 112), in the years—

1849—50	. .	Increase . . .	£250,204
1850—51	. .	„	696,535
1851—52	. .	„	201,613
1852—53	. .	„	370,141
1853—54	. .	„	278,976
		Increase in 5 years . .	£1,797,469

* Vide estimate, page 25, for pumping lifts, £17,000. per annum, J. W. Bazalgette, Esq.,—to which a margin of £13,000. per annum is added.

The average increment per annum has been £359,493, to the gross *Metropolitan* assessment, on which a general equal and annual pound rate assessed and levied, yields, per annum :—

At $4\frac{3}{4}d.$	£7141
„ $4\frac{1}{4}$	6366
„ $3\frac{7}{8}$	5804
„ $3\frac{1}{2}$	5242

The average annual increment has been £6131.

Assuming one-third of this average only, and that £2,000 will be the future annual increase, it follows, that a uniform rate of increase of £2,000, will, in the sixtieth year, yield £120,000, and that the total amount for the whole term of 60 years, *exclusive of all interest during that period,* will be £3,660,000, more than sufficient to pay off the sum required to be raised, £3,500,000, to carry out the whole of the works for the interception of the sewage and drainage of the Metropolis, and for the outfall works north and south of the river.

Metropolitan and City of London Sewers Bonds.

10,000	Bonds . . .	£100 each . . .	£1,000,000
5,000	„ . . .	200 „ . . .	1,000,000
3,000	„ . . .	500 „ . . .	1,500,000
18,000	„		£3,500,000

To be issued in series as funds may be required, irredeemable for such terms of years as may then be determined, and at the rates of annual interest the market value of money may bear at the times of issue. The interest to be payable January 15th and July 15th.

Metropolitan Sewers.

The existing *debt* of the Metropolitan Commission of Sewers is £292,475, included in the total *liabilities* £432,475,

at the yearly interest of £19,508, and £566. 10*s.* per annum life annuities.

The total annual charge on loans and annuities, to be provided out of rates, is £20,074. 10*s.*

The last Commission contracted also for another loan of £150,000 at 5 per cent., to be received between the 1st of October, 1855, and the 1st of October, 1856, for a period of ten years. Although not expressed in the Act of Parliament of 1854 (17 and 18 Vict., cap. 111), it appears to have been understood in the House of Commons, that the loans thereby authorized (£140,000 and £150,000), were to be applied to the construction of the outfall works required for the interception of the sewage and the drainage of the Metropolis, and its discharge at remote points eastward of the Metropolis.

The Commissioners not having adequate powers under the *Act,* 1848, *or under the subsequent five Amendment Acts,* to enter upon these great works; and, considering also the short and transitory nature of their existence, they have invested £140,000 in Exchequer Bills. At the date of investment they yielded £3. 8*s.* 5¼*d.* per cent. per annum, or 2¼*d.* for each £100 per day. If these Exchequer Bills are among the now advertised Bills, the future interest per annum will be £3. 0*s.* 10*d.* per cent., or 2*d.* for each £100 per day.

For this loan of £140,000 *the Metropolitan rate-payers are charged* £4½ *per cent. per annum ! !*

The costs on raising the loans prior to the Consolidation Act, 1848, cannot be accurately ascertained.

The costs on loans from Jan. 1st, 1849 to Nov. 29th, 1854—£398,800,—are £1210. 8*s.* 1*d.*, or 6*s.* 10*d.* per cent.

The total outstanding amount of monies, the produce of loans or annuities raised by former Commissions is £292,475, *to which debt—no addition has been made by this Commission.*

From January 1st, 1849, to December 31st, 1854, the Metropolitan Commissions of Sewers have built 163 miles 576 feet of public sewers and 366 miles 4629 feet of private sewers, at an outlay of £821,344. 15*s.* 11*d.*, and the total cost for management of £126,918. 19*s.* 5*d.* The ratio is

£15. 9*s.* per cent. *On the total outlay,* £1,116,093. 9*s.*, *the ratio is* £11. 7*s.* 5*d. per cent.*

There are yet urgently required about 400 miles of sewers, in which are included about 20 miles of old sewers, within the *present rated area* so defective as to require rebuilding. The probable cost is estimated at £1,500,000.

A general, equal, and annual *Metropolitan* pound rate of 4*d.*, assessed and levied by Act of Parliament, on the 1854 gross *Metropolitan* assessment £9,484,945, and on all future increments thereof, will present the means to pay the annual interest of the *debt*, £292,475,—the annual interest of £1,500,000, raised by issue and sale on the Stock Exchange, from time to time as the money may be required, of *Metropolitan Sewers Bonds*, to improve and to extend the sewerage and drainage of the Metropolis;—the annual (1854) charges, £84,224. 6*s.* 5*d.*,—and to pay off, within a less period than sixty years, £1,792,475.

With the increase of population,—the growing extent of the rated area,—the progress to completion of the 380 miles of new sewers to be built within its *present ambit*, ministering their annual tribute:—will decrease the pound rate under the action of liquidation.

By gradual purchase of the *Metropolitan Bonds* in the money market, they will be withdrawn from public circulation, to fructify for the benefit of the ratepayers, at the rate of interest at which they were issued, and at compound interest, until cancelled, for the reduction of the annual pound rate. *It will appear that the maximum limit of the annual Metropolitan pound rate,—need not exceed fourpence.*

A penny rate per pound on the gross assessment, 1854—£9,484,945—produces £39,520. Having in hand in Exchequer Bills £140,000, the sum required to be raised will be £1,360,000. The total amount of annual charges are, 1854:—

Interest on debt	£20,074	10	0
Management	26,430	17	0
Repairs	24,881	14	5
Cleansing	27,045	2	6
Collection (poundage)	5,866	12	6
	£104,298	16	5

According to the rate of interest at which the £1,360,000. may be raised, the total annual amount to be provided for by the Metropolitan ratepayers, will be—

At £5 per cent. per annum	.	£172,299	0	0
„ 4½ „ „	.	165,499	0	0
„ 4 „ „	.	158,699	0	0
„ 3½ „ „	.	151,899	0	0

This charge may be met respectively by a general, equal, and annual pound rate on the gross Metropolitan assessment, £9,484,945 :—

At 4½*d.* amount	£177,840	. . Surplus	. .	£5,541
„ 4¼ „	167,960	. . „	. .	2,461
„ 4 „	158,080	. . Less	. . .	619
„ 3⅞ „	153,140	. . Surplus	. .	1,241

It is evident that the annual pound rate cannot exceed 4½d.; and it is apparent that fourpence in the pound will prove sufficient.

To the growing increase of the population, and consequently to the growing extent of the rated area, may be left to pay off £1,792,475.

If one-sixth of the average annual increment, £6,131, or £1,000 increase, is taken as a uniform rate, the sixtieth year will yield £60,000, and the whole amount for the term of sixty years, *exclusive of all interest* during that period, will be £1,830,000—more than sufficient.

Metropolitan Sewers Bonds.

7,925	Bonds	. . . £100 each	. . .	£792,500
3,000	„	. . . 200 „	. . .	600,000
800	„	. . . 500 „	. . .	400,000
11,725	„			£1,792,500

To be issued in series as funds may be required, irredeemable for such terms of years as may then be determined, and at the rates of annual interest, the market value of money may bear at the times of issue. The interest to be payable March 15th and October 15th.

The whole amount, £5,292,475, would be paid off in less than sixty years, were less than half of the average increment of the last five years to be the uniform rate of increase for the future, since *without interest*, £3,000 increase per annum, yields in sixty years £5,490,000.

When compound interest is considered, the period will be much shortened. An uniform annual increment of £2,000 at £3 per cent. per annum, yields in sixty years *upwards* of £7,400,000, for in the computations, fractional parts are omitted; thus proving that less than a *third* of the established annual increment, £6,131, is more than adequate to liquidate in a less period than sixty years the *existing debt* of the Commission, and the large funds required to improve and to extend the sewerage and drainage of the Metropolis, and for the interception of the sewage north and south of the river, and its transfer to Barking Creek and to or below Plumstead Marshes,—*and that the maximum limit of the Metropolitan Annual Pound Rate required need not exceed eight pence,—nor that from the City of London four pence.*

It is believed that this inquiry will not be deemed irrelevant or out of place, considering that three Acts of Parliament, *provided*, that the annual pound rate to be assessed and levied on the Metropolitan Sewers ratepayers should not exceed maximum limits,—that the "Bill for the better Local Management of the Metropolis" *is silent thereon*,—and that in all general Acts of Parliament, taxing the public, a maximum limit to taxation is the rule.

May it not be respectfully asked, if Parliament, the Metropolitan or the City of London Sewers ratepayers have yet given to the question of maximum limit, the attention or the investigation that it requires and deserves, *on the eve of sewerage works of such colossal magnitude being undertaken?* How otherwise account for the discrepant *limits* of—one shilling,—threepence,—and sixpence,—to the annual Metropolitan pound rate having been *provided*, by three Acts of Parliament, —from September 4th, 1848, to June 30th, 1852?

The "Bill for the better Local Management of the Metropolis," clause 141, leaving *(in blank)* the rates of interest and terms of years, for computing the annual sums required for repayment of advances made by the Commissioners of Her Majesty's Treasury, &c., vide page 6,—the rates of in-

terest in this inquiry, and terms of sixty and fifty years, have been assumed in the following parallel, between the Government plan and the system advocated, as preferable, for the interests of the ratepayers.

Metropolitan and City Sewers.

Annual sums required to pay off £3,500,000, according to Clause 141 of the "Bill for the better Local Management of the Metropolis" :—

Rates of Interest. Per Annum.	Terms. Sixty Years.	Fifty Years.
At £5 per cent. . .	£184,898 12 7 . .	£191,718 11 9
4½ ,, . .	169,589 18 2 . .	177,107 10 6
4 ,, . .	154,706 9 6 . .	162,925 14 0
3½ ,, . .	140,310 3 4 . .	149,217 19 8

Annual amount to be provided for, including £30,000 a-year for pumping lifts, &c. :—

Rates of Interest.	Sixty Years. By the Bill, clause 141.	By the Inquiry, page 10.	Excess per Ann. of Government Plan.
At £5 per cent. . .	£214,898 . .	£205,000 . .	£9,898
4½ ,, . .	199,589 . .	187,500 . .	12,089
4 ,, . .	184,706 . .	170,000 . .	14,706
3½ ,, . .	170,310 . .	152,500 . .	17,810

Annual amount to be provided for, including £30,000 a-year for pumping lifts, &c. :—

Rates of Interest.	Fifty Years. By the Bill, clause 141.	By the Inquiry, page 10.	Excess per Ann. of Government Plan.
At £5 per cent. . .	£221,718 . .	£205,000 . .	£16,718
4½ ,, . .	207,107 . .	187,500 . .	19,607
4 ,, . .	192,925 . .	170,000 . .	22,925
3½ ,, . .	179,217 . .	152,500 . .	26,717

Similar rates of interest, and the same terms of years, are assumed in this parallel, between the Government plan and the system advocated, as preferable for the interests of the ratepayers.

Metropolitan Sewers.

Annual sums required to pay off £1,792,475, according to Clause 141 of the "Bill for the better Local Management of the Metropolis":—

Rates of Interest. Per Annum.	Terms. Sixty Years.	Fifty Years.
At £5 per cent.	£94,693 3 10	£98,185 18 9
4½ „	86,853 1 0	90,703 1 9
4 „	79,230 14 3	83,440 1 5
3½ „	71,857 17 0	76,419 17 2

Annual amount to be provided for, including £84,224. 6*s*. 5*d*. a-year for management, repairs, cleansing and collection (poundage):—

Sixty Years.

Rates of nterest, Per Annum.	By the Bill, clause 141.	By Inquiry, page 14.	Excess per Ann. of Government Plan.
At £5 per cent.	£178,917 10 3	£172,299	£6,618
4½ „	171,077 7 5	165,499	5,578
4 „	163,455 0 8	158,699	4,756
3½ „	156,082 3 5	151,899	4,183

Annual amount to be provided for, including £84,224. 6*s*. 5*d*. a-year for management, repairs, cleansing and collection (poundage):—

Fifty Years.

Rates of Interest, Per Annum.	By the Bill, clause 141.	By Inquiry, page 14.	Excess per Ann. of Government Plan.
At £5 per cent.	£182,410 5 2	£172,299	£10,111
4½ „	174,927 8 2	165,499	9,428
4 „	167,664 7 10	158,699	8,965
3½ „	160,644 3 7	151,899	8,745

It is apparent that the lower the rate of interest at which the monies required may be raised, and the shorter the term of years,—the *greater* will become the annual sums to be taken from the *present* ratepayers, under the operation of Clause 141 of the "Bill for the Better Local Management of the Metropolis."

On the principles of Joint Stock Association, by issue of Sewers' Bonds, the lower the rate of annual interest at which the monies required may be raised,—the *less* will be the annual sums to be taken from the *present* ratepayers, and it is presumed that money might be obtained, at the rate of interest borne by East India or Exchequer Bonds.

With respect to the term of years for the liquidation,—that may be safely left to the extending ambit of the metropolitan rated area, as it is evident that a steady annual increase of £2,000, at compound interest, £3 per cent. per annum, is adequate to pay off, in sixty years, upwards of £7,400,000., or £2,107,525. more than required.

A steady annual rate of increase, £2,000, corresponds—to an annual increase of the population of the Metropolis of 0·58 per cent. only, when the data (pages 7 and 11), are taken into account;—and to the duplication of the population in 173 years.

The increment to the gross *Metropolitan* assessment from the end of 1854 to April 17th, 1855, is £145,035, which corresponds to an average increase of £2473, from a general, equal, and annual pound rate.

For a sinking fund in constant operation, Sewers' Bonds will offer to the *present* and *future* ratepayers advantages superior to every other investment. There can be no diminution of capital, and no loss, beyond the difference of premium or discount which they may bear in the money market at the times of sale for raising funds, and those of purchase for liquidation,—until they are cancelled for the reduction of the pound rate to the Community.

The constant operation of a sinking fund on the market, from the growing extension of the metropolitan rated area,

will tend to keep the bonds above par, with advantage to the character of the security and to the public.

Might it not be advisable to widen the basis of action of the Sewers Bonds, by the issue of a certain number for fifty pounds each?

As a security for temporary purposes, this would give to the humbler classes an investment proportionate to their requirements, and by thus extending the sphere of their circulation, benefit also the Community of rate-payers.

The ascertained costs on raising loans from Jan. 1st, 1849, to Nov. 29th, 1854, by *Mortgage*, has been 6*s*. 10*d*. per cent. The costs (*brokerage*) for raising money by issue of *Sewers Bonds*, will be one shilling per cent. on sale,—one shilling per cent. on purchase for liquidation,—with the charge for engraving two plates and the printing of the Bonds.

My thanks are due to Mr. Deputy Harrison,—to Messrs. Bazalgette, Hatton, and Smith, chief engineer, chief accountant and surveyor of the Metropolitan Commission,—and to Mr. Daw, of the City of London Sewers Office, Guildhall, for their attention to supply the annexed elucidatory—*official documents*.

This Inquiry is respectfully presented to the Metropolitan Commissioners of Sewers, and submitted to them for their consideration.

A severe domestic affliction,—the sudden loss of a near relation and valued friend on the 15th May,—will plead my excuse for not more promptly responding to the order of Court.

A. SAYER.

June 11th, 1855.
28, Upper Seymour Street,
Portman Square, London.

Remarks.
20th and last instalment on £3,500.
Paid in 10 instalments of £20,000. each.
To be received between 1st October, 1855, and 1st November, 1856.

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nder one of the old

S. HATTON.

Metropolitan Sewers.

LOANS AND ANNUITIES.

Loans.	Amount of Loan.	Rate of Interest.	Amount per Annum.			Total.		
	£.		£.	s.	d.	£.	s.	d.
Peache	10,000	5 per Cent.	500	0	0			
George	3,000	,,	150	0	0			
Meller	12,500	,,	625	0	0			
Hicks	5,000	,,	250	0	0			
Hobbs	2,000	,,	100	0	0			
Hall	1,500	,,	75	0	0			
Robinson	1,500	,,	75	0	0			
Green	1,000	,,	50	0	0			
						1,825	0	0
Rock Assurance	228,800	4½ per Cent.	10,296	0	0			
Clergy Mutual Assurance	140,000	,,	6,300	0	0			
						16,596	0	0
Robinson	2,000	4 per Cent.	80	0	0			
Hart	1,000	,,	40	0	0			
Kershaw	4,000	,,	160	0	0			
Royal Exchange Assurance	20,000	,,	800	0	0			
Exchequer Bill Commissioners	175	,,	7	0	0			
						1,087	0	0
	432,475					19,508	0	0
Annuities.								
Swabey			50	0	0			
Edwards			172	10	0			
Lee			80	0	0			
Woodifield			31	0	0			
Cohen			100	0	0			
Hunt			30	0	0			
Woodroffe			23	0	0			
Jeremy			70	0	0			
Symons			10	0	0			
Total interest on Loans and Annuities per Annum			...		£	566	10	0
						20,074	10	0

1, Greek Street, Soho Square.
May 18th, 1855.
Dr. Sayer.

G. S. HATTON.

Metropolitan Sewers.

A.—Gross Assessments, in which the District Sewers Rate was or might have been levied in the Years 1849, 1850, 1851, 1852, 1853, 1854, with the Amount of Rate per Pound in each Year, either 1*s.*, 3*d.*, or 6*d.*

Year.	Gross Assessments. £.		Rate per Pound. *s.*	*d.*
1849	7,687,476		1	0
1850	7,937,680		1	0
1851	8,634,215	To 7th August	1	0
		From ditto	0	3
1852	8,855,286	To 30th June	0	3
		From ditto	0	6
1853	9,278,230		0	6
1854	9,557,272		0	6

B.—Gross Assessments, in which the District Sewers Rate was levied in the proportion of one-fourth part only of the Net Annual Value (Market Gardens, &c. &c.), in the Years 1852, 1853, 1854, the Amount of Rate per Pound in each case being 6*d.*

	£.
1852	25,943
1853	96,348
1854	96,435

N.B.—These Amounts are respectively included in those given above for the same years.

The Expense of Collection (Collectors' Poundage), in each Year.

	£.	*s.*	*d.*
1849	1,707	0	9
1850	2,016	0	5
1851	2,523	3	5
1852	3,029	1	10
1853	5,459	10	8
1854	5,866	12	6

Amounts Actually Received and Paid into Treasury in each Year, on the Assessment **A.**

	£.	*s.*	*d.*
1849	55,105	3	0
1850	77,748	6	6
1851	96,621	6	0
1852	94,243	19	10
1853	175,829	8	0
1854	199,007	18	8

Amounts Actually Received and Paid into Treasury, on the Assessment **B.**, in the Years—

	£.	*s.*	*d.*
1852	87	7	3
1853	497	9	5
1854	679	11	9

1, Greek Street, Soho,
March 30th, 1855.
DR. SAYER.

G. S. HATTON.

Cost of Management in the Years 1849, 1850, 1851, 1852, 1853, 1854 respectively, under the different heads :—

	1849.	1850.	1851.	1852.	1853.	1854.	Total.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Salaries, &c.:—							
Chairman	...	...	282 3 10	989 13 4	1,000 0 0	1,000 0 0	
Secretary's Department	3,809 1 4	4,190 9 2	5,860 7 0	5,885 9 0	6,384 2 10	7,734 10 0	97,092 12 4
Engineers' Ditto ...	11,501 2 8	12,076 10 8	11,091 3 4	6,635 18 9	7,829 8 11	10,822 11 6	
Rent, Taxes, &c.	445 16 0	504 6 2	473 14 8	526 18 5	519 12 8	423 15 8	2,894 3 7
Office Repairs, Furniture, &c.	301 0 7	1,270 9 8	1,078 7 1	1,049 7 6	603 1 8	604 9 0	4,906 15 6
Stationery, and Printing	1,356 17 10	1,333 15 9	2,447 17 0	1,989 1 1	1,917 13 6	2,997 6 2	12,042 11 4
Copies of Rates	138 5 4	164 0 4	415 17 6	266 10 0	603 0 1	1,049 2 11	2,636 16 2
Miscellaneous Expences	1,704 10 11	1,456 2 7	828 18 8	657 12 5	899 14 2	1,799 1 9	7,346 0 6
£	19,256 14 8	20,995 14 4	22,478 9 1	18,000 10 6	19,756 13 10	26,430 17 0	126,918 19 5

March 30th, 1855.

G. S. HATTON.

The Total Assessments up to the date of the last Rates made, namely 17th April last, was £9,629,970.

1, Greek-street, Soho-square,
May 22nd, 1855.

G. S. HATTON.

Dr. Sayer.

Metropolitan Sewers.

QUESTIONS.		ANSWERS.
The rated area in	1849	66·0 square miles
,, ...	1850	107·8 ,,
,, ...	1851	107·8 ,,
,, ...	1852	108·2 ,,
,, ...	1853	108·2 ,,
,, ...	1854	108·2 ,,

Length in miles of the Metropolitan Sewers in 1849 ..... 400 miles of permanent Brick Sewers in the Public Ways. Probably 70 miles of existing Sewers unknown.

Length in miles of New additional Sewers, built in the years 1849 to 1854, both inclusive, with the Annual Cost respectively? .....

Years.	PUBLIC SEWERS.					PRIVATE SEWERS.				
	Length.		Cost.			Length.		Cost.*		
	Miles.	Feet.	£.	s.	d.	Miles.	Feet.	£.	s.	d.
1849	10 -	2276	12,792	6	4	...		...		
1850	21 -	4611	38,439	16	9	12 -	2949	46,186	19	7
1851	33 -	1386	60,822	17	4	91 -	2459	77,768	17	9
1852	14 -	1896	25,146	3	0	78 -	934	73,339	9	1
1853	29 -	861	96,489	17	10	97 -	3141	110,493	8	8
1854	54 -	106	185,107	3	0	87 -	426	94,757	16	7
	163 -	576	418,798	4	3	366 -	4629	402,546	11	8
						163 -	576	418,798	4	3
						529 -	5205	821,344	15	11

Length in miles of New Additional Sewers urgently required within the present rated area, with the estimated cost? ... About 400 miles, at a probable cost of £1,500,000.

Length in miles of Old and Defective ... ing Rebuilding, within the present rated area, with the estimate of cost?		20 miles, included in the 400 urgently required.
Cost of Repairs in	1849	£3,946 11 5
	1850	4,550 13 7
	1851	6,286 19 2
	1852	13,098 14 4
	1853	12,966 9 4
	1854	24,881 14 5
Cost of Cleansing, including flushing, in the year	1849	£18,595 18 10
	1850	17,523 14 7
	1851	17,559 10 7
	1852	17,298 7 8
	1853	19,572 1 4
	1854	27,045 2 6

* The estimated cost of the private works executed, includes the cost of side entrances, air shafts, gullies, pans, traps, cesspools cleansed and houses drained.

1, Greek Street, Soho Square,
April 5th, 1855.

J. W. BAZALGETTE.

Dr. Sayer.

Metropolitan and City Sewers.

1, Greek Street, Soho Square,
20th April, 1855.

My dear Sir,—The probable annual cost of the pumping lifts, including everything, will be, North side of Thames, outfall at Barking-Creek £5,000

South side at Deptford	£6,000	
Plumstead Marshes	6,000	
		12,000
Total		£17,000

The above is, in my opinion, a liberal estimate; and I believe the pumping will save nearly its own cost out of our present £25,000 per annum spent in cleansing sewers.

I am, Dear Sir, yours faithfully,

J. W. BAZALGETTE.

Dr. Sayer.

Metropolitan Sewers.

Total Cost of Public Works executed in the Years 1849 to 1854, both inclusive.

Year.	Construction. New Sewers.			Construction. Side Entrances, Air Shafts, Gullies, &c.			Repairs and Alterations, including relaying Paving.			Cleansing and Flushing.			Incidental Works.			Total.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
1849.....	12,792	6	4	5,577	9	6	3,946	11	5	18,595	18	10	1,460	2	9	42,825	0	3
1850.....	38,439	13	9	6,203	10	4	4,550	13	7	17,523	14	7	2,296	0	5	69,511	4	2
1851.....	60,822	17	4	12,267	5	9	6,286	19	2	17,559	10	7	9,376	15	8	106,639	15	7
1852.....	25,146	3	0	7,862	6	7	13,098	14	4	17,298	7	8	7,140	11	0	70,546	2	7
1853.....	96,489	17	10	13,289	0	0	12,966	9	4	19,572	1	4	5,272	10	11	147,589	19	5
1854.....	185,107	3	0	30,123	8	10	24,881	14	5	27,045	2	6	9,277	6	7	276,434	15	4
	418,798	1	3	75,323	1	0	67,007	12	3	117,594	15	6	34,823	7	4	713,546	17	4
Add Total Cost of Private Works in same period.....																402,546	11	8
Gross Total of Works..... £																1,116,093	9	0

1, Greek-street, Soho,
16th June, 1855.

G. S. HATTON.

Dr. Sayer.

Metropolitan Sewers.

RETURN,

Showing length of Sewers within the Rated Area of the Metropolitan Commission of Sewers.

	Miles.
Brick Sewers explored	658
*Ditto ditto (not explored) approximately	150
Pipe Sewers	126
Total Covered Sewers	934
†Open Sewers approximately	400
Grand Total	1,334

The whole of the above explored Sewers have been surveyed, levelled, and examined along every yard of their course. Special Reports have been made out for all parts requiring immediate attention. The whole has been laid down in plan.

* Too small for the men to enter for the purpose of surveying them. Many of them very old.

† In many instances it is difficult to determine between open ditches and sewers.

JOSEPH SMITH,
Surveyor.

1 Greek-street, Soho,
June 17th, 1855.

Dr. Sayer.

City of London Sewers.

Sewers Office, Guildhall,
May 9th, 1855.

Sir,

Mr. Deputy Harrison has sent me your note to him of yesterday's date, requesting "to have the gross assessments on which the Sewers Rates are levied this year, and have been levied in the years 1854, 1853, 1852, 1851, 1850, and 1849."

The following return will give you the required information.

The gross amounts of the Sewers Rates in the City of London has been as follows, omitting fractions:—

		Total.	At per £.	Equal to a Rental.
For the year	1849	£19,320	4*d.*	£1,159,200
,,	1850	19,097	4*d.*	1,145,620
,,	1851	19,227	4*d.*	1,153,620
,,	1852	19,110	4*d.*	1,146,600
,,	1853	9,925	2*d.*	1,191,000
,,	1854	5,172	1*d.*	1,241,280
,,	1855	19,417	4*d.*	1,165,020

I am, Sir,

Your obedient servant,

JOSEPH DAW.

A. Sayer, M D.